

Dedoose : Distinguishing features and functions

This document is intended to be read in conjunction with the 'Choosing a CAQDAS Package Working Paper' which provides a more general commentary of common CAQDAS functionality. This document does not provide an exhaustive account of all the features and functions provided by Dedoose but is designed to highlight some of its distinguishing elements. The Comment section at the end, details our opinions on certain aspects of functionality and usability. Thanks to Eli Lieber, Michelle Salmona and Jose Gomez for checking the accuracy of this document.

Background <http://www.dedoose.com/> Dedoose is a web-based qualitative and mixed-methods research application developed by Eli Lieber, Thomas Weisner and Jason Taylor at SocioCultural Research Consultants LLC. It builds on tools present in its predecessor, EthnoNotes, developed by Lieber & Weisner during their time at UCLA. Dedoose first became commercially available in 2009 - following the release of EthnoNotes in 2003 - and was specifically designed to support the concurrent analysis of large amounts of qualitative and mixed data collected by teams of geographically dispersed researchers working together on Mac or PC systems.

Minimum System Specifications (recommended by developer)

Windows : Multi-core CPU (2x, 3x, 4x etc.) at least 1.5 GHz per Core; XP, Vista or Windows 7 – 32 or 64 bit; 2GB of RAM for Window XP, 3GB of RAM for Vista or Windows 7; 1,024 x 768 display. ■ Mac OS : Intel processor; Mac OS X v10.5 or v10.6; 2 GB of RAM, 1,024 x 786 display. ■ Dedoose is a web-based application and is designed to work in all modern internet browsers, including Google Chrome, Safari, Firefox, Opera and Internet Explorer ■ Developers recommend the use of the desktop app that runs through Adobe Air - instructions can be found here <https://www.dedoose.com/blog/dedoose-desktop-app>.

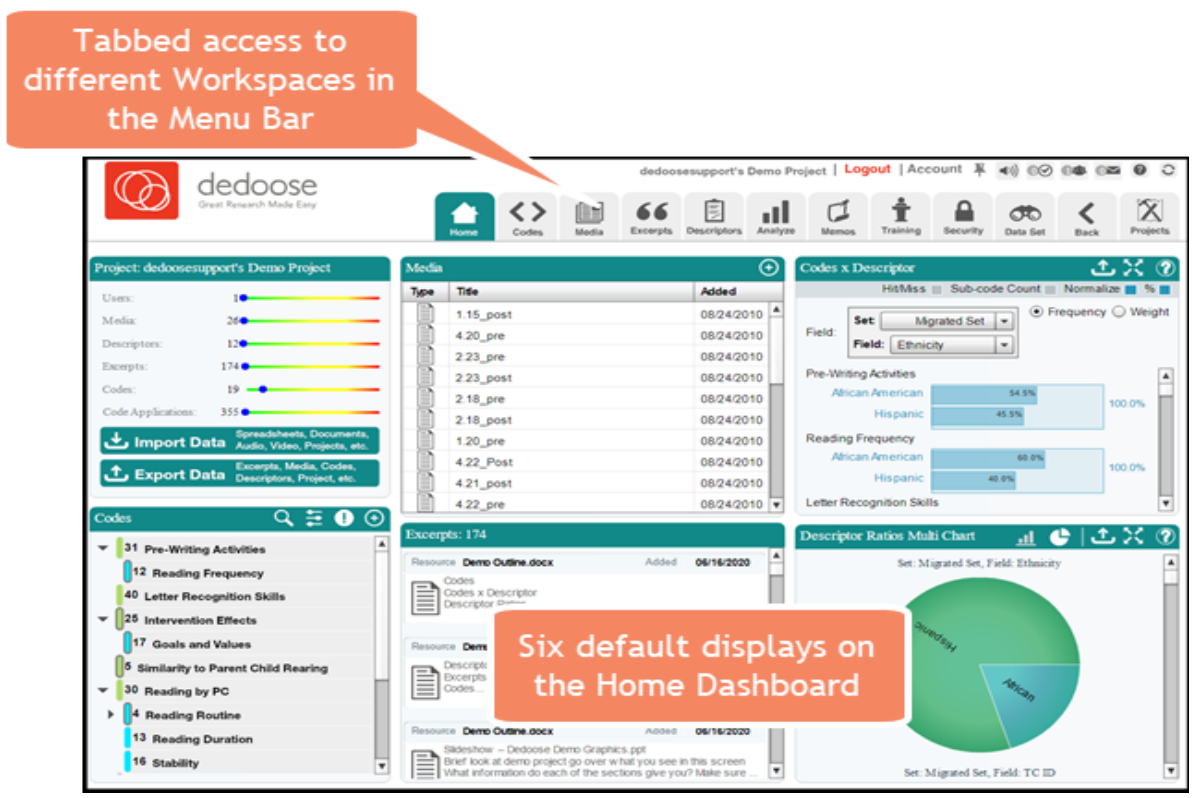


Figure 1. The Dedoose Main Workspace

Structure of work in Dedoose

The Dedoose Home Dashboard comprises a main menu bar which provides access to different workspaces ■ These workspaces are context specific such that different features and icons become available depending on which workspace is active ■ Upon opening a project, access to several basic features are visible and available including a list of imported *Media* and the ability to import new media; the *Codes panel* where codes are listed, and can be created, imported and the code system reconfigured; the *Excerpts panel* which lists previously marked data segments; the *Codes by Descriptor panel* which provides an overview of the frequency of code application as a function of specific data or respondent characteristics (referred to as descriptor fields in Dedoose). Weight applied to Excerpts in relation to descriptor fields can also be displayed in this panel; and the *Descriptor Ratios Multi-Chart*, which is a visual representation of the relative frequency of members in each categorical variable sub-group and quick access to all associated excerpts.

Data types and formats in Dedoose

Textual Formats: Text only (.txt), Rich text format (.rtf), MS Word (.doc, .docx), Portable Document Format (.pdf) and HTML (.htm, .html). Text documents can be created within Dedoose or imported. Textual formats are fully editable within Dedoose. Images can be embedded into textual documents. Hyperlinks can be inserted into text documents to connect to external web-based material. ■ **Multimedia formats:** Images (jpg, png, bmp, or gif), digital video (mp4) and audio files (mp3, wav, m4a, or wma) can be directly imported and treated in similar ways as textual formats. ■ **Survey Import function** enables data held in spreadsheets to be imported (.csv, .xlsx, or xls). ■ Data files are referred to as media.

Closeness to data and interactivity in Dedoose

Excerpts are independently defined objects in Dedoose meaning that selections of data can be marked and listed separately; and need not be coded in order to identify them as meaningful ■ Excerpts can be viewed centrally and sorted in different ways (e.g. according to code application, descriptor field, etc.). They can also be viewed independently, lifted out of source context, or located within source context ■ Workspaces are interactively linked such that it is easy to flick between them to visualise excerpts in different contexts ■ The margin view associated with media is interactive in that excerpts can be highlighted and accessed from it ■ Codes associated with Excerpts and assigned weight can be viewed and edited from the Selection Info workspace ■ Excerpts linked to different codes are highlighted in different colours on the media transcript. Media can be viewed in original un-excerpted format. Any memos linked to media can be accessed and edited from different views.

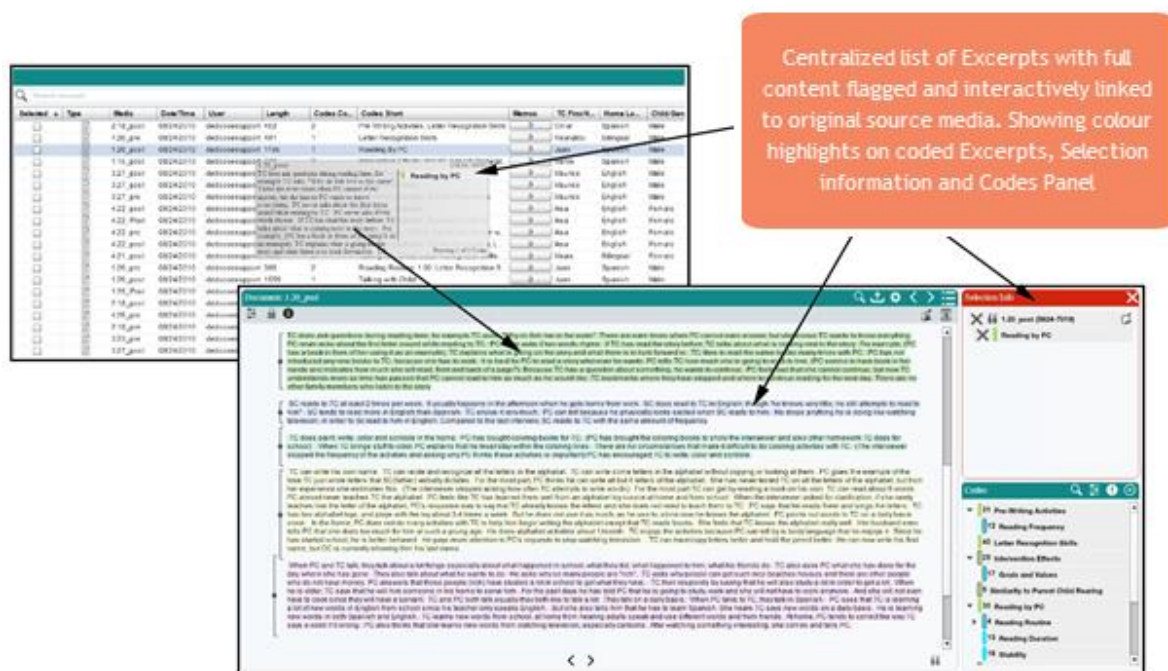


Figure 2. Coding processes in Dedoose, showing list of excerpts and colour highlighted coded excerpts

Handling multimedia data in Dedoose Dedoose handles audio and video files as separate media, and graphics embedded within textual media ■ Once imported, audio and video media can be handled and analysed using the same functions as are used with textual media ■ Audio and video media are worked with independently from an associated textual transcript but can be associated with and synchronized to a transcription of the audio stream.

Coding schema in Dedoose The coding schema is structured and functions hierarchically, with sub-codes appearing under Root Codes. Codes can be described and assigned a default weighting score. Weight for individual code assignments can be altered by the user, for example, according to the salience of an excerpt, or the strength of an attitude etc. ■ The Codes Panel stores the coding schema. Codes can be moved around the coding schema but doing so has implications on prior and subsequent coding of Excerpts ■ Coding schemas can be imported from spreadsheet applications.

Coding Processes in Dedoose Data segments identified as meaningful are created as Excerpts. Upon creation, Excerpts can be coded, but they needn't be if there is a need to mark segments without immediately categorising them ■ Once created as an Excerpt, data segments are highlighted on screen ■ If also coded the code label appears in the margin as a bracket. Any number of codes can be applied to Excerpts by drag-and-drop or double clicking in the Codes Panel.

Basic Retrieval of coded data in Dedoose The Media Workspace is the central tabular listing of a projects data files. Media can be sorted according to column header (excerpts, memos etc.) or filtered by sub-group (codes, descriptors etc.) ■ Dedoose provides a range of qualitative and quantitative bases upon which to retrieve coded Excerpts. ■ These are accessed from several of the Workspaces (see below under Searching and Interrogating the dataset for information on retrieval via the Analysis Workspace). ■ From the Codes Panel all coded excerpts or only those in the currently active set, can be retrieved. ■ In the first instance Excerpts are lifted out of source context and listed in a separate Selection Reviewer. From here they can be re-located within source context and exported to .doc or .xlsx format.

Data organization in Dedoose Factual information about media and respondents are organised using Descriptors (cases) and Descriptor Fields (variables with defined types and values). ■ Descriptor Sets are containers for holding Descriptors and Descriptor Fields. Multiple Descriptor Sets can be used within a project, for recording factual information relating to different units of analysis (e.g. individual respondents, organisations, locations etc.). ■ Individual media can be associated with multiple Descriptor Sets ■ Descriptor information can be imported from spreadsheet applications or created manually within a project. ■ Dynamic Descriptor Fields are designed to track changes in known characteristics over time and thus are relevant to longitudinal datasets. ■ To make the full use of the mixed methods analysis tools provided by Dedoose Media must be linked to Descriptors.

Writing tools in Dedoose The Memo Workspace provides access to all the memos created in the project. ■ Memos are stored within folders in order to group according to type. ■ Memos can be free-floating or linked to Media, Descriptors, Codes and/or Excerpts. ■ Linked memos are visible and accessible from other Workspaces.

Linking devices in Dedoose Linking tools in Dedoose are limited to the linking of memos to other project items and the insertion of hyperlinks from within textual media to external web material.

Visual tools in Dedoose Visual tools in Dedoose are provided through the Analysis Workspace (see below in relation to Searching and Interrogating the dataset for more information). A wide variety of quantitative, qualitative and mixed-methods charts are available which provide different visualisations. ■ There are no modelling or mapping tools for visualising connections between codes or other items.

Searching and interrogating the database in Dedoose

The Analysis Workspace provides access to different tools for interrogating media according to how Excerpts have been coded, weights has been applied to coded Excerpts and the use of associated Descriptors. ■ A variety of charts, tables and plots are pre-programmed in Dedoose. Charts are interactive to data excerpts and can be filtered according to the codes and descriptors, enabling complex Boolean operator querying. ■ The entire dataset can be filtered in the Data Selector Workspace to focus attention on a particular sub-set of data (e.g. data derived from a particular organisation, or pertaining to one phase of a longitudinal project etc.). ■ Filtering functions are available from several different Workspaces.

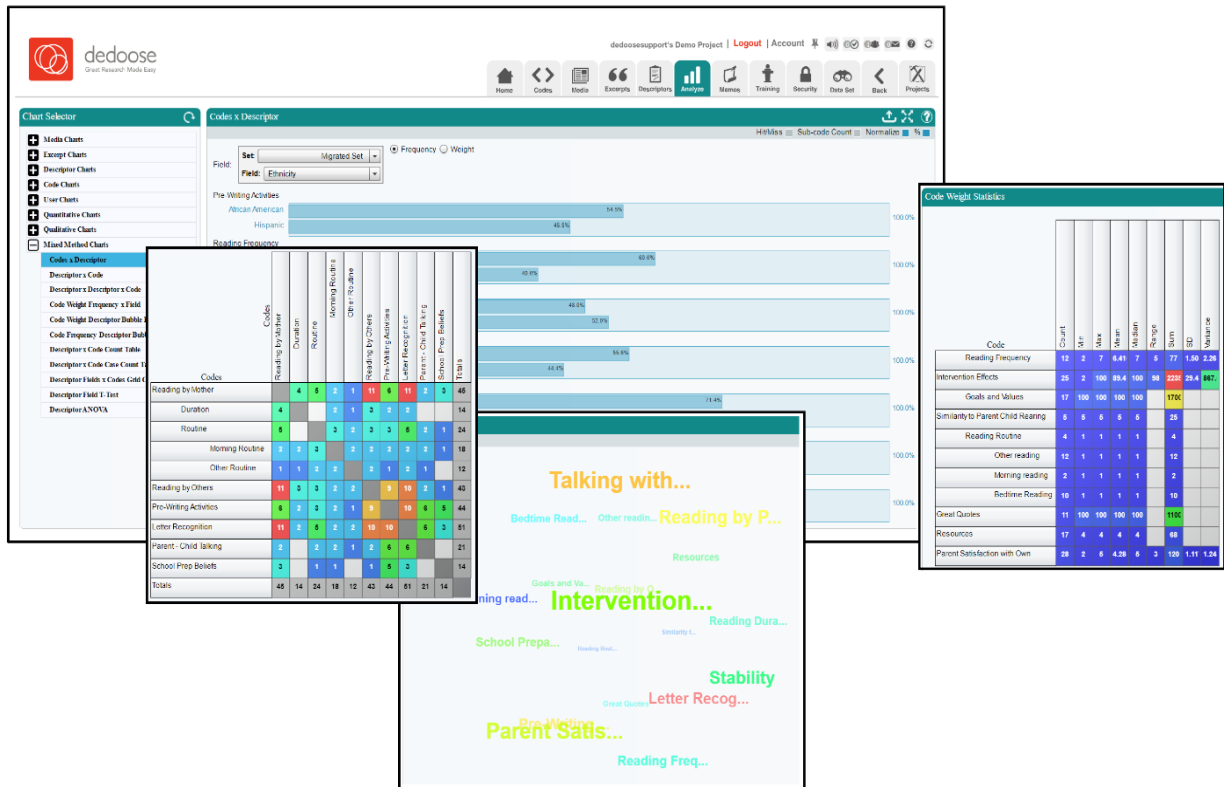


Figure 3. Examples of visual analysis tools

Output in Dedoose

Reporting on different aspects of the project is enabled in several ways in Dedoose. Most Workspaces have export functions enabling all items (including the data visualisations), or those currently in the active set, to be outputted. Exported material can usually be saved in several alternative formats, e.g. Excel, Word, pdf. There is flexibility concerning the metadata to be exported along with content, as well as the density of excerpts – i.e. whether full text, or a shortened version.

Team-working in Dedoose

Dedoose is designed around the need for multiple researchers to work concurrently on a research project. Users can be added to projects at any point and access work by logging in using a password. ■ Different levels of access can be given to different users such that certain aspects of a project cannot be edited, or viewed by certain users. ■ The Training centre tool provides ways of measuring inter-rater reliability, enabling code application and code weighting tests to be carried out.

Comments on Dedoose

Dedoose offers a powerful range of tools specifically designed for mixed methods approaches to qualitative data analysis, some of which are unique. As with most CAQDAS packages, the approach is code-based although some of the ways in which the application of codes to data excerpts can be interrogated are more quantitatively oriented than most alternatives.

As a web-based application users needn't install software, although will only be able to access projects when connected to the Internet. The pricing structure, being a subscription model, is different from other similar tools and can offer added flexibility and cost value to some users. While some users may be sensitive to the uploading of data to Dedoose cloud services, the developers have gone to a great deal of effort to ensure data security. Information on this can be accessed here <https://www.dedoose.com/about/terms#SECURITY>

The team-working aspects of Dedoose are more well-developed than most of the CAQDAS packages reviewed here. The web-based interface offers a flexible way of working and the ability to work concurrently without complicated server installations and set-ups is beneficial. Dedoose tracks the actions of different researchers well. The Dedoose training centre functions offer ways of measuring inter-rater reliability which are unusual amongst most CAQDAS packages.

The margin display associated with media is less visually satisfying than in most other CAQDAS packages; the main implication of this being that it is less easy to identify patterns and relationships in how data have been coded sequentially throughout a data file.

That coded excerpts are highlighted in the source media is unique amongst the CAQDAS packages reviewed here and is a feature frequently asked for by users. This feature offers a visually satisfying way of identifying patterns of code applications throughout media. The ability to assign weight to codes and code assignments is also unusual and offers a powerful additional way of analysing qualitative data.

Analytic tools are accessed and data thereby interrogated easily, without the user having to build complicated queries. The range of visual ways of interrogating data are extensive and easy to use.

Writing and linking tools are less well-developed (at time of writing) than comparable functions in other CAQDAS packages. As are the facilities for analysing multimedia data and handling the occurrence of repeated structures within or across data files (such as speakers in focus-group discussions or actors in observational field notes).

Further Reading:

- Lieber, E & Weisner T (2010). 'Meeting the practical challenges of mixed methods research'. In A Tashakkori & C Teddlie (eds.) *Handbook of Mixed Methods Research*, 2nd Edition (pp. 559-579), Thousand Oaks, CA: Sage Publications.
- Lieber, E., Weisner, T.S., & Presley, M. (2003) *EthnoNotes: An Internet-based field note management tool*. *Field Methods* 15(4), 405-425.
- Silver, C. & Lewins A. (2014) *Using Software in Qualitative Research: A Step-by-step Guide (2nd ed.)*. London, Sage Publications
- Salmona, M. & Kaczynski, D. (2016). Don't Blame the Software: Using Qualitative Data Analysis Software Successfully in Doctoral Research. *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research*, 17(3), Art 11, <http://nbn-resolving.de/urn:nbn:de:0114-fqs1603117>
- Salmona, M., Lieber, E. and Kaczynski, D. (2020). *Qualitative and Mixed Methods Data Analysis using Dedoose: A Practical Approach for Research across the Social Sciences*. Thousand Oaks, CA: Sage.
- Silver C., & Fielding, N. (2008) 'Using Computer Packages in Qualitative Research', in Willig C & Stainton-Rogers W (eds.) *The Sage Handbook of Qualitative Research in Psychology*, London, Sage Publications
- di Gregorio, S & Davidson J (2008) *Qualitative Research for Software Users*, McGraw Hill, Open University Press, UK